BIOLOGY

BOOKS - CBSE MODEL PAPER

SAMPLE PAPER 2022

Alternative Questions Section C

1. A student was–performing an activity to prove the requirements for photosynthesis. During this activity, he kept two identical

healthy potted plantsA and Bin dark for 72 hours. After 72 hours, he covered plant A and B by bell shaped jars separately. While covering the plants with separate bell jars, he kept KOH in the watch glass by the side of the plant in setup A and not in setup B. Both these setups were made air tight and were kept in light for 6 hours. Then, Iodine Test was performed with one leaf from each of the two plants A and B.

This experimental set up is used to prove essentiality of which of the following requirements of photosynthesis?

A. Chlorophyll

B. Oxygen

C. Carbon dioxide

D. Sunlight

Answer:

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2. A student was–performing an activity to prove the requirements for photosynthesis. During this activity, he kept two identical

healthy potted plantsA and Bin dark for 72 hours. After 72 hours, he covered plant A and B by bell shaped jars separately. While covering the plants with separate bell jars, he kept KOH in the watch glass by the side of the plant in setup A and not in setup B. Both these setups were made air tight and were kept in light for 6 hours. Then, Iodine Test was performed with one leaf from each of the two plants A and B.

The function of KOH is to absorb

A. Oxygen

B. Carbon dioxide.

C. Moisture

D. Sunlight

Answer:

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3. A student was–performing an activity to prove the requirements for photosynthesis. During this activity, he kept two identical healthy potted plantsA and Bin dark for 72

hours. After 72 hours, he covered plant A and B by bell shaped jars separately. While covering the plants with separate bell jars, he kept KOH in the watch glass by the side of the plant in setup A and not in setup B. Both these setups were made air tight and were kept in light for 6 hours. Then, Iodine Test was performed with one leaf from each of the two plants A and B.

Which of the following statements shows the correct results of Iodine Test performed on the leaf from plant A and B respectively?

A. Blue - black colour would be–obtained on the leaf of plant A

B. Blue - black colour would be–obtained on the leaf of plant B

C. Red colour would be obtained on the leaf of plant A

D. Red colour would be obtained on the leaf of plant B

Answer:

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4. A student was–performing an activity to prove the requirements for photosynthesis. During this activity, he kept two identical healthy potted plantsA and Bin dark for 72 hours. After 72 hours, he covered plant A and B by bell shaped jars separately. While covering the plants with separate bell jars, he kept KOH in the watch glass by the side of the plant in setup A and not in setup B. Both these setups were made air tight and were kept in light for 6 hours. Then, Iodine Test was

performed with one leaf from each of the two plants A and B.

Which of the following steps can be followed for making the apparatus air tight?

i. placing the plants on glass plate

ii. using a suction pump.

iii. applying Vaseline to seal the bottom of jar.

iv. creating vacuum

A. i and ii

B. ii. and iii

C. i. and iii

D. ii. And iv

Answer:

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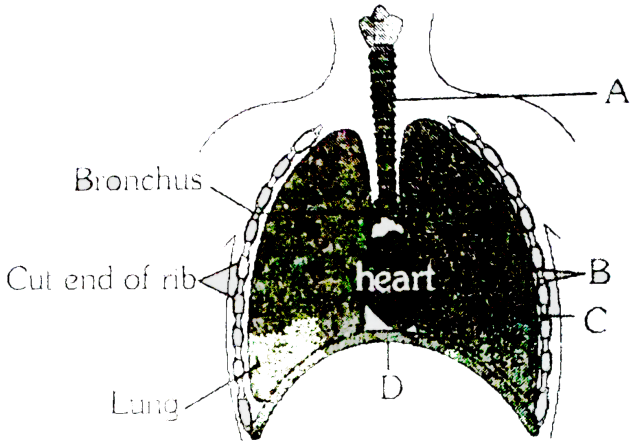
Section A

1. the figure shows a diagrammatic view of human respiratory system with labels A, B , C and D . Select the option which given correct identification and main function and / or

characteristic



A. (i) Trachea: It is supported by bony rings for conducting inspired air

B. (ii) Ribs: When we breathe out, ribs are lifted

C. (iii) Alveoli: Thin-walled sac like structures for exchange of gases.

D. (iv) Diaphragm: It is pulled up when we breathe in.

Answer:

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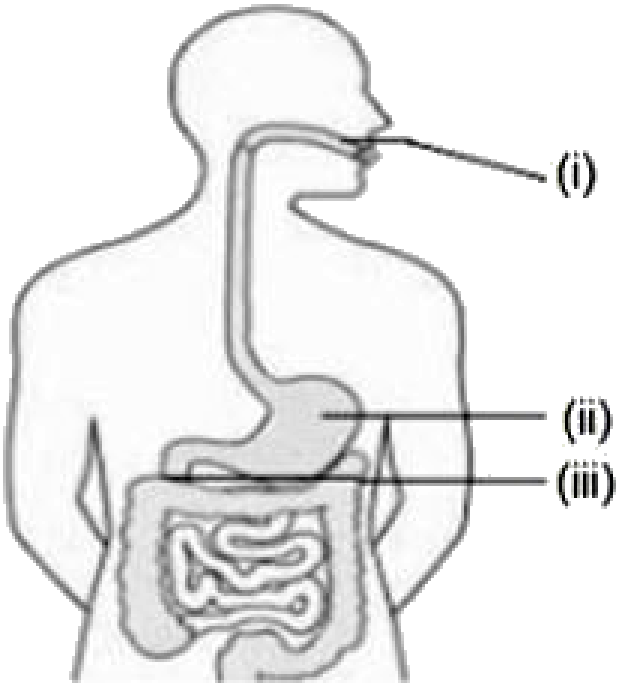
2. Identify the option that indicates the correct enzyme that is secreted in location A, B

and C.



A. (i)-lipase, (ii)-trypsin, (iii)-pepsin

B. (i)-amylase, (ii)-pepsin, (iii)-trypsin

C. (i)-trypsin, (ii)-amylase, (iii)-carboxylase

D. (i)-permease, (ii)-carboxylase, (iii)-oxidase

Answer:

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3. The opening and closing of the stomatal pore depends upon

A. Atmospheric temperature

B. oxygen concentration around stomata

C. carbon dioxide concentration around stomata

D. water content in the guard cells

Answer:

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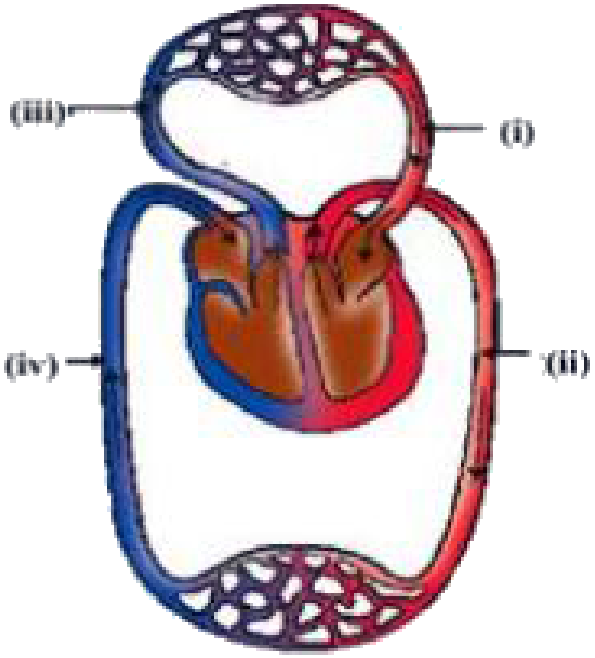
4. The figure given below shows a schematic plan of blood circulation in humans with labels (i) to (iv). Identify the correct label with

its functions?



A. (i) Pulmonary vein - takes impure blood from body part.

B. (ii) Pulmonary artery - takes blood from lung to heart.

C. (iii) Aorta - takes blood from heart to body parts.

D. (iv) Vena cava takes - blood from body parts to right auricle

Answer:

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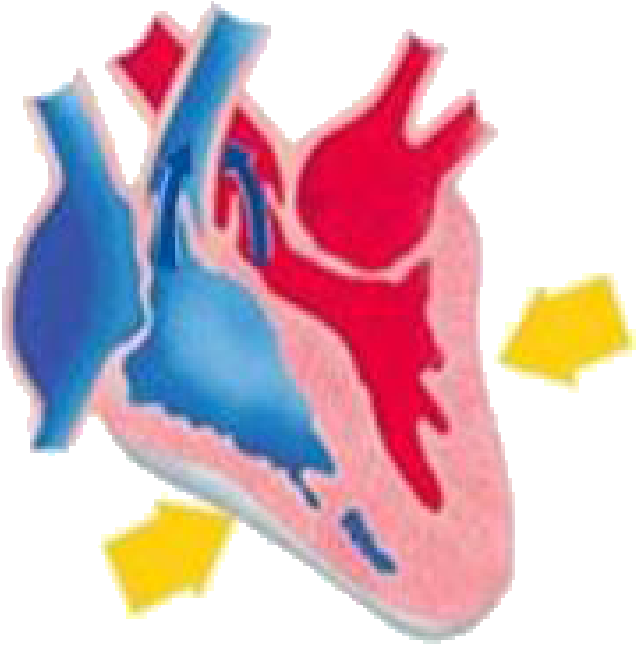
5. Identify the phase of circulation which is represented in the diagram of heart given below. Arrows indicate contraction of the

chambers shown.



A. Blood transferred to the right ventricle and left ventricle simultaneously

B. Blood is transferred to lungs for oxygenation and is pumped into various

organs simultaneously

C. Blood transferred to the right auricle and left auricle simultaneously.

D. Blood is received from lungs after oxygenation and is received from various organs of the body.

Answer:

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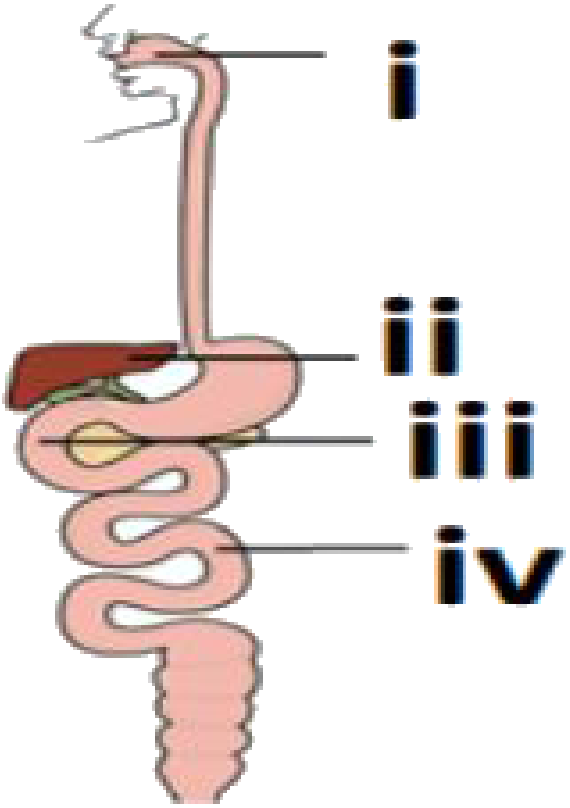
6. Observe the diagram of Human digestive system.



Match the labeling referred in column I and

correlate with the function in column II

Column I	Column II
i	a. The length of this depends on food the organism eats.
ii	b. Initial phase of starch digestion
iii	c. Increases the efficiency of lipase enzyme action
iv	d. This is the site of the complete digestion of carbohydrates, proteins and fats.

A. i.- a) , ii – b) , iii – c) , iv- d)

B. i.- b) , ii – c) , iii – d) , iv- a)

C. i.- b) , ii – d) , iii – c) , iv- a)

D. i.- d) , ii – a) , iii – b) , iv- c)

Answer:

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7. The mirror used by a dentist to examine the teeth of a person is :

A. Convex mirror

B. Plane mirror

C. Concave mirror

D. Any spherical mirror

Answer:

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Section B

1. Assertion: Decomposition of vegetable matter into compost is an endothermic reaction.

Reason: Decomposition reaction involves breakdown of a single reactant into simpler products.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not the correct explanation of A

C. A is true but R is false

D. A is False but R is true

Answer:

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2. Assertion: Resins and gums are stored in old xylem tissue in plants.

Reason:Resins and gums facilitate transport of water molecules.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true and R is not the correct explanation of A

C. A is true but R is false

D. A is False but R is true

Answer:

3. In which of the following groups of organisms, blood flows through the heart only once during one cycle of passage through the body?

A. Rabbit, Parrot, Turtle

B. Frog, crocodile, Pigeon

C. Whale, Labeo, Penguin

D. Shark, dog fish, sting ray

Answer:

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4. What is common between extensive network of blood vessels around walls of alveoli and in glomerulus of nephron?

A. Thick walled arteries richly supplied with blood

B. Thin walled veins poorly supplied with blood

C. Thick walled capillaries poorly supplied with blood.

D. Thin walled capillaries richly supplied with blood

Answer:

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5. Plants use completely different process for excretion as compared to animals. Which one

of the following processes is NOT followed by plants for excretion?

A. They can get rid of excess water by transpiration.

B. They selectively filter toxic substances through their leaves.

C. Waste products are stored as resins and gums in old xylem.

D. They excrete waste substances into the soil around them.

Answer:

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6. In which of the groups of organisms the food material is broken down outside the body and then absorbed ?

A. mushroom, green plants, amoeba

B. yeast, mushroom, bread mould

C. paramecium, amoeba, cuscuta

D. cuscuta, lice, tapeworm

Answer:

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7. In a person the tubule part of the nephron is not functioning at all. What will its effect be on urine formation?

A. The urine will not be formed.

B. Quality and quantity of urine is unaffected.

C. Urine is more concentrated.

D. Urine is more diluted.

Answer:

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Alternative Questions Section A

1. Select the option which gives correct function and /or characteristic: of the four parts of human respiratory system.

A. Alveoli: Thin-walled sac like structures for exchange of gases.

B. Diaphragm: It is pulled up when we breathe in.

C. Trachea: It is supported by bony rings for conducting inspired air.

D. Ribs: When we breathe out, ribs are lifted.

Answer:

2. Identify the option that indicates the correct enzyme that is secreted in location L, M and N.L, M and N represent Mouth cavity, stomach and small intestine of the human being.

	L	M	N
A	lipase	trypsin	pepsin
B	amylase	pepsin	trypsin
C	trypsin	amylase	lipase
D	lipase	amylase	pepsin

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3. Given below are the functions of some parts of human circulatory system. Identify the correct match.

A. Pulmonary vein – takes oxygenated blood from body partsto heart

B. Artery – takes oxygenated blood from heart to lung

C. Dorsal aorta – takes deoxygenated blood from heart to body parts

D. Vena cava – takes deoxygenated blood from body parts to right atrium

Answer:

4. What happens when right and left ventricle contract during pumping of blood by human heart?

A. Blood transferred to the right ventricle and left ventricle simultaneously.

B. Blood is transferred to lungs for oxygenation and is pumped into various organs simultaneously.

C. Blood transferred to the right atrium and left atrium simultaneously.

D. Blood is received from lungs after oxygenation and is received from various organs of the body.

Answer:

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5. i, ii, iii and iv represent mouth cavity, liver, first part of small intestine and complete small intestine respectively of Human digestive system.

Match the labeling referred in column I andcorrelate with the function in column II.

Column I	Column II
i	a. The length of this depends of food the organism eats.
ii	b. Initial phase of starch digestion.
iii	c. Increase the efficiency of lipase enzyme action.
iv	d. This is the site of the complete digestion of carbohydrates, proteins and fats.

A. i.- c , ii – d , iii – a , iv- d

B. i.- b , ii – c , iii – d , iv- a

C. i.- a , ii – c , iii – d , iv- c

D. i.- d , ii – a , iii – b , iv- c

Answer:

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Section A

1. a. Trace the path a male gamete takes to fertilise a female gamete after being released from the penis.

b. State the number of sets of chromosomes present in a zygote.

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2. Rajesh observed a patch of greenish black powdery mass on a stale piece of bread.

a. Name the organism responsible for this and

its specific mode of asexual reproduction.

b. Name its vegetative and reproductive parts

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3. Mustard was growing in two fields- A and B. While Field A produced brown coloured seeds, field B produced yellow coloured seeds.

It was observed that in field A, the offsprings showed only the parental trait for consecutive generations, whereas in field B, majority of the

offsprings showed a variation in the progeny.

What are the probable reasons for these?

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4. In an asexually reproducing species, if a trait X exists in 5% of a population and trait Y exists in 70% of the same population, which of the two trait is likely to have arisen earlier? Give reason.

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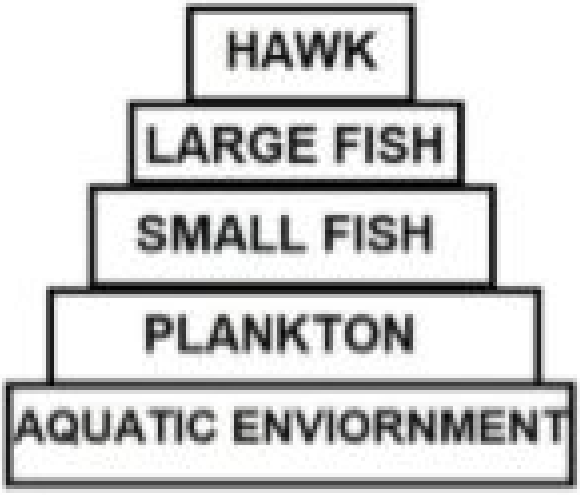
5. DDT was sprayed in a lake to regulate breeding of mosquitoes. How would it affect the trophic levels in the following food chain associated with a lake? Justify your answer.



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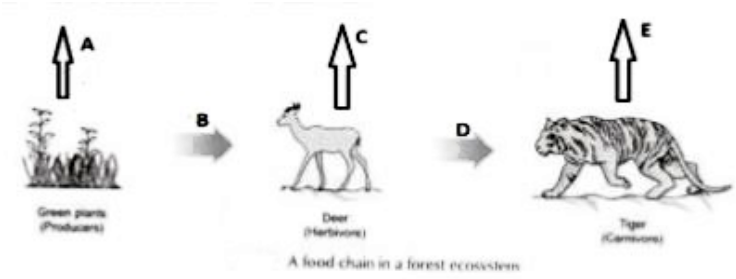
6. In the following food chain, vertical arrows indicate the energy lost to the environment and horizontal arrows indicate energy transferred to the next trophic level. Which one of the three vertical arrows (A, C and E) and which one of the two horizontal arrows (B and D) will represent more energy transfer? Give reason for your answer.



A food chain in a forest ecosystem

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Section B

1. Two pea plants - one with round yellow seeds (RRYY) and another with wrinkled green (rryy) seeds produce F1 progeny that have round, yellow (RrYy) seeds.

When F1 plants are self-pollinated, which new combination of characters is expected in F2 progeny? How many seeds with these new combinations of characters will be produced

when a total 160 seeds are produced in F2 generation? Explain with reason.

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Section C

1. Sahil performed an experiment to study the inheritance pattern of genes. He crossed tall pea plants (TT) with short pea plants (tt) and obtained all tall plants in F1 generation.

a. What will be set of genes present in the F1

generation?

b. Give reason why only tall plants are observed in F1 progeny.

c. When F1 plants were self - pollinated, a total of 800 plants were produced.

How many of these would be tall, medium height or short plants? Give the genotype of F2 generation.

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2. When F1 plants were cross - pollinated with plants having tt genes, a total of 800 plants were produced. How many of these would be tall, medium height or short plants? Give the genotype of F2 generation.

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